

## Patent Abstracts of Japan

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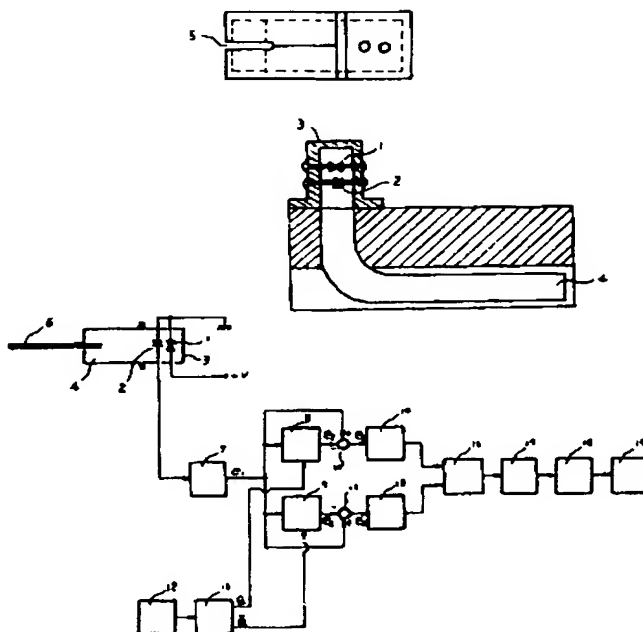
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TITLE : ALARMING DEVICE FOR MISSING  
LEAF AND DOUBLE GATHERING IN  
GATHERING MACHINE



ABSTRACT : PURPOSE: To enhance stability by passing a plurality of papers through a slit in a waveguide connected to a microwave oscillator incorporating a Gunn diode and a mixing diode.

CONSTITUTION: When the paper 6 to be gathered is passed through a slit 5 provided at a part of a waveguide 4, a microwave generated at a Gunn diode 1 undergoes a phase change and an amplitude change while propagating through a waveguide 4, then it is reflected at the terminal end of the waveguide 4, undergoes again a phase change and an amplitude change at the paper 6 and collide against the mixing diode 2. The output thus obtained through two times of the phase changes and the amplitude changes enables to detect changes in the number of gathered leaves with high sensitivity. In order of non-adjusted operation irrespective of changes in the number of the gathered leaves, the output of the mixing diode 2 is linearized by a linearizer 7, sampling operations and holding operations are repeated by sampling and hold circuits 8, 9 and the outputs of the circuits 8, 9 are caused to follow up the output of the linearizer 7.

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